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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,458	06/14/2006	Nobuaki Ogawa	36856.1459	6900

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MURATA MANUFACTURING COMPANY, LTD.
C/O KEATING & BENNETT, LLP
1800 Alexander Bell Drive
SUITE 200
Reston, VA 20191

EXAMINER

PATEL, ISHWARBHAI B

ART UNIT	PAPER NUMBER
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2841

NOTIFICATION DATE	DELIVERY MODE
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08/06/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JKEATING@KBIPLAW.COM
uspto@kbiplaw.com
cbennett@kbiplaw.com

Office Action Summary	Application No. 10/596,458	Applicant(s) OGAWA, NOBUAKI	
	Examiner Ishwar (I. B.) Patel	Art Unit 2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) 18-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-17 and 26-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :6/14/06, 4/25/07, 10/10/07, 8/6/2008.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of specie I, figure 15-17 and 26-28 in the reply filed on May 8, 2009 is acknowledged.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been received and placed of record in the file.

Specification

3. The disclosure is objected to because of the following informalities: Reference numerals for wiring patterns and ceramic substrate are not correct, page 9, line 2 and 5.
Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 15-17 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Furumoto (Japanese Patent No. JP02004254037).

Regarding claim 15, Furumoto in figure 1 discloses a composite ceramic substrate comprising: a ceramic substrate (2, page 5, paragraph 0022, as per translator) including a surface-mounted component mounted thereon (5); at least one wiring pattern disposed in the ceramic substrate (7); at least one external terminal electrode (terminal at the end of element 3, see figure) connecting the at least one wiring pattern to a surface electrode of a motherboard (19, page 3, paragraph 0011, as per translator); at least one convex leg portion (3) made of resin (page 5, paragraph 0028, as per translator) and arranged on the ceramic substrate such that an end surface thereof supports the external terminal electrode (see figure); and a via-hole conductor (conductor in element 3) provided in the at least one convex leg portion (see figure) and connecting the at least one external terminal electrode to the at least one wiring pattern (see figure).

Regarding claim 16, Furumoto further discloses the surface-mounted component (5) is mounted on at least one of a first main surface and a second main surface of the ceramic substrate (see figure) and the convex leg portion (3) is disposed on the second main surface of the ceramic substrate (see figure).

Regarding claim 17, Furumoto further discloses the convex leg portion is disposed at a periphery of the second main surface of the ceramic substrate (see figure).

Regarding claim 28, Furumoto further discloses the surface-mounted component includes an array of external terminal electrodes (8, see figure).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furumoto, as applied to claim 15 above in view of Takehara (US Patent No. 6,815,810).

Regarding claim 26, Furumoto discloses all the features of the claimed invention as applied to claim 15 above including the via hole conductor, but does not explicitly disclose the via-hole conductor is made of a flexible conductive resin. The via hole conductor of Furumoto is made of metal paste (page 6, paragraph 0029, as per translator).

However, via hole filled with paste made of conductive resin is old and known in the art.

Takehara in figure 1 discloses a structure with substrate 2 formed of low temperature co-fired ceramic laminate (column 6, line 9-17) with via hole conductor (12) in the bottom resin layer formed of conductive resin (column 5, line 40-50).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to provide the board of Furumoto with the via hole conductor made of flexible conductor to have desired conductivity.

Regarding claim 27, Furumoto further discloses the substrate to be a multilayer ceramic substrate including a plurality of laminated low temperature co-fired ceramic layers as applied to claim 26 above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Horiuchi (US Patent No. 5,943,212) in figure 3 discloses a ceramic circuit board with resin layer (40) on the bottom surface of the ceramic substrate (32).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (571) 272 1933. The examiner can normally be reached on M-F (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272 1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2841

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ibp
August 3, 2009

/Ishwar (I. B.) Patel/
Primary Examiner, Art Unit 2841